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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,309	04/21/2004	Yasuo Aotsuka	0649-0956P	4794

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EXAMINER	
WHIPKEY, JASON T	
ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
01/29/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/828,309	AOTSUKA, YASUO	
	Examiner	Art Unit	
	Jason T. Whipkey	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 6, 7, and 8 have been considered but are moot in view of the new grounds of rejection.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

3. A replacement drawing was received on November 13, 2007. The drawing is approved and the corresponding objection is withdrawn.

Terminal Disclaimer

4. The terminal disclaimer filed on November 13, 2007, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the patent 7,317,478 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 4-8, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (Japanese Patent Publication No. 07-143513) in view of Aotsuka (U.S. Patent Application Publication No. 2003/0058357).

Regarding **claims 1, 6, 7, and 8**, Morimoto discloses a solid-state imaging apparatus (see Drawing 1 in the provided computer translation) comprising:

a solid-state imaging device (image sensor 1 and color separation section 2) having a plurality of pixels that image light originating from a subject, by dividing the light into a plurality of color signals (see page 3, lines 6-10) with a plurality of types of color filters provided with said plurality of pixels (inherently present, since the device captures red, green, and blue image data); and

a signal processor (gain controller 3) that subjects photographed image data output from the solid-state imaging device to white balance correction at a gain corresponding to light source types (see page 4, lines 1-6),

wherein the solid-state imaging device further comprises a sensor (the pixels inherently included on image sensor 1) that detects light in a wavelength range which induces a difference having a predetermined value or more between

radiant energy of a first light source and radiant energy of a second light source (see page 4, lines 14-21), the sensor being provided on the surface of the solid-state imaging device; and

wherein the signal processor further comprises: a mixing ratio estimation unit (white balance operation part 4) that determines a mixing ratio between illumination light originating from the first light source and illumination light originating from the second light source (see page 4, lines 14-15), through use of a detection signal output from the sensor; and a gain computation unit that computes a gain where the white balance correction is to be effected, in accordance with the mixing ratio (see page 6, lines 2-9).

Morimoto is silent with regard to the sensor having a filter different from the plurality of types of color filters.

Aotsuka discloses an image pickup apparatus that distinguishes between light sources (see Figure 3). Red, green, and blue color filters are used for regular image capturing (see paragraphs 63-64). Long red filters are used on other pixels to detect the kind of illuminating light source (see paragraphs 78-82).

As suggested in paragraphs 96-97, an advantage of including pixels with separate filters is that a variety of light sources can be more easily detected, including variations in different fluorescent lights. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Morimoto's sensor include pixels with a filter different from the plurality of types of color filters, as described by Aotsuka.

Regarding **claim 4**, Morimoto discloses:

the signal processor comprises a light source type determination unit that determines the type of a light source from the photographed image data (see page 5, line 44, through page 6, line 2).

Regarding **claim 5**, Morimoto discloses:

the sensor acts also as the pixel that images the color signal (as shown in the drawings, the image signal is used to perform the white balancing calculations).

Regarding **claims 9-11**, Morimoto's device inherently includes red, green, and blue filters, since the device captures red, green, and blue image data.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto in view of Aotsuka and Kitajima (U.S. Patent No. 5,808,681).

Claim 2 can be treated like claim 1. However, Morimoto is silent with regard to the mixing ratio and the gain being determined with respect to each of the pixels.

Morimoto discloses an electronic still camera that performs automatic white balancing, wherein:

the mixing ratio (see column 5, lines 24-27) and the gain (see column 5, lines 31-35) are determined with respect to each of the pixels.

As suggested in column 9, lines 8-27, an advantage of calculating a ratio between two light sources and a gain for each pixel is that a more accurate white balance calculation can be produced. For this reason, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to have Morimoto's system perform these calculations on a per-pixel basis.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto in view of Aotsuka and Yamada (U.S. Patent Application Publication No. 2002/0012463).

Claim 3 can be treated like claim 1. While Morimoto discloses correcting color using a mixing ratio, he is silent with regard to correcting a color tone by multiplying color difference signals by a color difference matrix and correcting coefficients of the matrix.

Yamada discloses an imaging device (see Figure 1), wherein:

> the signal processor comprises: a color tone correction unit (color correcting section 22) for correcting a color tone by multiplying color difference signals determined from the photographed image data by a color difference matrix (see paragraph 39); and
>
> a color difference matrix correction unit (matrix coefficient setting section 20) for correcting coefficients of the color difference matrix (by way of lightness detecting section 20; see paragraph 39).

An advantage of using color difference matrices and correcting coefficients is that color correction values can be produced with fewer system resources. For this reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Morimoto's system use color difference matrices and correcting coefficients, as described by Yamada.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

10. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Whipkey, whose telephone number is (571) 272-7321. The examiner can normally be reached Monday through Friday from 9:30 A.M. to 6 P.M. eastern standard time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye, can be reached at (571) 272-7372. The fax phone number for the organization where this application is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JTW

JTW
January 22, 2008

LIN YE
SUPERVISORY PATENT EXAMINER